USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Agricultural Water Enhancement Program
AWEP
HELPING PEOPLE HELP THE LAND
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"Securing this USDA funding shows the power that comes when agricultural and environmental interests combine their energies to help growers solve water quality problems."

— Parry Klassen, CURES Executive Director

Project Partners: Partnership for Agriculture and the Environment

- Almond Board of California
- California Dairy Campaign
- Coalition for Urban and Rural Environmental Stewardship (CURES)
- East San Joaquin Water Quality Coalition (ESJWQC)
- East Stanislaus Resource Conservation District (ESRCD)
- Environmental Defense Fund's (EDF) Center for Conservation Incentives (CCI)
- Stanislaus County Department of Agriculture
- Merced County Department of Agriculture
- Stanislaus County Farm Bureau
- Tuolumne River Trust
- University of California Cooperative Extension (UCCE)
- Western United Dairymen (WUD)
- Westside San Joaquin River Watershed Coalition (WSJRWC)
- West Stanislaus Resource Conservation District (WSRCD)

Northern San Joaquin River Water Quality Project

Addressing Water Quality Concerns in the Northern San Joaquin River Watershed

Stanislaus, Merced, and San Joaquin counties are three of the nation's highest producing agricultural counties, generating $7.5 billion in agricultural output annually. Since the 1990s, waterways in the three counties were impaired by sediment, nutrients and pesticides from agricultural, urban and other sources. State regulators imposed strict new requirements on farmers in 2003 that included developing management plans on many regional waterways due to impairments originating from agriculture.

The water quality of the San Joaquin River is of critical interest because it flows to the delta. Both the Delta-Mendota Canal, which supplies irrigation water to farms in the western San Joaquin Valley, and the California Aqueduct, which supplies drinking water to southern California, originate in the delta. Photo: USGS

Local watershed coalitions and the non-profit group CURES (Coalition for Urban Rural Environmental Stewardship) began working on correcting agricultural water quality problems in 2004. They knew that a combination of farm management practices would be needed to keep pollutants out of the San Joaquin River and its numerous tributaries. Infrastructure improvements such as irrigation tailwater recirculation systems and conversion from furrow to micro irrigation systems offered ways to prevent water pollution. These measures are considered best management practices (BMPs) that keep pesticides and sediments contained on farms, but are cost prohibitive for farmers to install even in profitable years.

In 2009, CURES, in coordination with Partnership for Agriculture and the Environment (a broad coalition of agricultural and environmental interests), successfully applied for AWEP funding to help farmers in the northern San Joaquin Valley implement these practices to improve water quality. The USDA approved $2 million annually in AWEP funding over a 5-year period for projects to improve water quality in the three county region.

A tailwater recirculation system in Stanislaus County. Photo: CURES

The AWEP funding is directed to farms and dairies located along waterways shown to be impaired by farm inputs through water monitoring performed by the East San Joaquin Water Quality Coalition and Westside San Joaquin River Watershed Coalition, both members of the Partnership for Agriculture and the Environment. These two watershed coalitions represent landowners under the Irrigated Lands Regulatory Program (ILRP) mandated by the Central Valley Regional Water Quality Control Board. The Westside coalition region encompasses approximately 500,000 acres and the Eastside coalition approximately 1,000,000 acres of irrigated cropland.

Thousands of acres of farmland along waterways in the two coalition regions require some form of agricultural water quality mitigation. Growers must make changes to irrigation and farming practices to meet requirements of the ILRP and are using AWEP funding to assist in installing micro-irrigation systems and irrigation tailwater recirculation systems, among other practices. More than 250 crops are grown within the two Coalition watersheds, ranging from fruit and nuts to melons, field crops such as alfalfa and cotton.

Practices to protect water quality have been installed on thousands of acres of irrigated cropland since project funding began in 2009. Priorities for the first year were Ingram and Hospital Creeks in the Westside Coalition area and Dry Creek, Duck Slough and Prairie Flower Drain in the East San Joaquin Coalition area. Because watershed management plans had already been established by the two watershed coalitions, many "shovel-ready" projects had already been identified by the local NRCS offices. As a result, AWEP funds were immediately used for several priority projects.

A micro-irrigation sprinkler system minimizes or eliminates runoff and can also boost production. Photo: NRCS

In FY 2009, 21 projects were implemented on 4,458 acres. A total of 26 contracts were funded In FY 2010, with conservation practices implemented on 5,229 acres. Completed work includes installation of 19,217 feet (3.6 miles) of underground pipeline, four tailwater recovery systems, land leveling on 838 acres, and irrigation system improvements on 992 acres. Irrigation water management is a part of every AWEP contract.

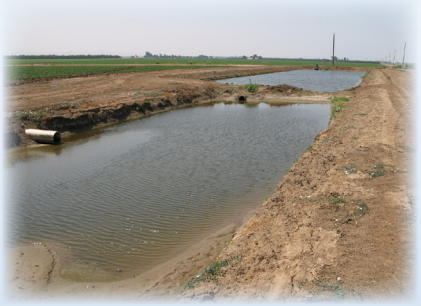
Although water quality monitoring was not directly funded by AWEP, both of the watershed coalitions in the project area have in place comprehensive water sampling programs which allow monitoring of post-installation water quality improvements.

Today, several of the priority waterways that exceeded state standards of agricultural inputs between 2004 and 2008 have shown dramatic improvements. Of three priority waterways identified by the water coalitions in 2009, two meet state standards for pesticides and toxicity and the third meets water quality regulations for all but one pesticide.

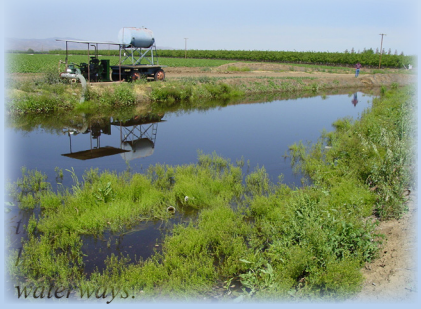
In addition to AWEP funding, project partners are providing in-kind services including grower outreach, education, water quality monitoring and project evaluation and reporting. In-kind monitoring costs are an estimated $200,000/ year per waterway. Some of the partners are also contributing in-kind consultation on project implementation, habitat, fish and wildlife issues, as needed.

Nearly $8 million in state funded grants will be available in 2011 to Central Valley farmers to help improve water quality in local streams and rivers. At least $3 million of these funds are anticipated for cost sharing in the AWEP project area on water quality projects such as irrigation recirculation systems and micro irrigation systems. Project partners are confident these funds will spur many more applications for AWEP.

A drip system for tomatoes in Stanislaus County. Photo: CURES



Shown above and below, holding ponds for recirculation systems in Stanislaus County. Tailwater recirculation systems facilitate the reuse of drainage water and help keep pesticide residues out of waterways. Photos: CURES



waterways.